

Contents

Acronyms and Terms	vii
Executive Summary	xi
1.0 Purpose and Need	1
1.1 Introduction	1
1.2 Background.....	3
1.3 Statement of Purpose and Need for Agency Action.....	7
1.4 Scope of This EA.....	8
1.5 Public Involvement.....	9
2.0 Description of Proposed Action and Alternatives.....	11
2.1 Proposed Action	12
2.1.1 Construction	15
2.1.1.1 New Shock and Detonation Physics (SDP) Office Building.....	20
2.1.1.2 New Collaborative Energetics Research Laboratory (CERL) Building.....	20
2.1.1.3 New Characterization of Highly Energetic Materials (CHEM) Laboratory.....	21
2.1.1.4 New Engineering Diagnostics Facility (EDF).....	22
2.1.1.5 New High Bay Laboratory	22
2.1.1.6 New Contained Firing Capability Buildings	22
2.1.1.7 New Gas Gun Facility Building(s)	23
2.1.1.8 New Detonator Qualification Facility (DQF).....	23
2.1.1.9 New Additional Combination Office and Laboratory Buildings.....	24
2.1.1.10 New Lecture Hall	24
2.1.1.11 New Machine Shop	24
2.1.1.12 New Classified HE Storage Building	25
2.1.1.13 New Access Road and Access-Control Improvements	25
2.1.2 Operations	26
2.1.3 Demolition.....	26
2.1.4 Schedule	28
2.2 No Action Alternative	29
2.3 Alternatives Considered but Dismissed.....	29
2.3.1 Use of Other Existing Space.....	29
2.3.2 Renovation of Existing Buildings and Structures without Construction of New Buildings or Demolition of Outmoded Buildings and Structures	29
2.4 Related Actions	30
2.4.1 Final Site-Wide Impact Statement for the Continued Operations of the Los Alamos National Laboratory.....	30
2.4.2 Demolition of Vacated Buildings	30
3.0 Affected Environment and Environmental Consequences	31
3.1 Regional Setting	32
3.2 Potential Environmental Issues	32
3.2.1 Waste Management	33
3.2.1.1 Affected Environment	33
3.2.1.2 Proposed Action	34
3.2.1.3 No Action Alternative	36
3.2.2 Air Quality.....	36
3.2.2.1 Affected Environment	36
3.2.2.2 Proposed Action	38
3.2.2.3 No Action Alternative	39

3.2.3	Cultural Resources.....	39
3.2.3.1	Affected Environment	39
3.2.3.2	Proposed Action	40
3.2.3.3	No Action Alternative	43
3.2.4	Visual Resources.....	43
3.2.4.1	Affected Environment	43
3.2.4.2	Proposed Action	43
3.2.4.3	No Action Alternative	44
3.2.5	Transportation, Traffic, and Infrastructure.....	44
3.2.5.1	Affected Environment	44
3.2.5.2	Proposed Action	45
3.2.5.3	No Action Alternative	46
3.2.6	Geologic Setting.....	46
3.2.6.1	Affected Environment	46
3.2.6.2	Proposed Action	49
3.2.6.3	No Action Alternative	49
3.2.7	Water Quality	49
3.2.7.1	Affected Environment	49
3.2.7.2	Proposed Action	50
3.2.7.3	No Action Alternative	50
3.2.8	Human Health.....	51
3.2.8.1	Affected Environment	51
3.2.8.2	Proposed Action	51
3.2.8.3	No Action Alternative	52
3.2.9	Environmental Restoration.....	53
3.2.9.1	Affected Environment	53
3.2.9.2	Proposed Action	53
3.2.9.3	No Action Alternative	54
3.2.10	Noise.....	54
3.2.10.1	Affected Environment	54
3.2.10.2	Proposed Action	55
3.2.10.3	No Action Alternative	56
3.2.11	Socioeconomics.....	56
3.2.11.1	Affected Environment	56
3.2.11.2	Proposed Action	56
3.2.11.3	No Action Alternative	56
3.2.12	Biological Resources	57
3.2.12.1	Affected Environment	57
3.2.12.2	Proposed Action	57
3.2.12.3	No Action Alternative	58
3.2.13	Floodplains and Wetlands	58
3.2.13.1	Affected Environment	58
3.2.13.2	Proposed Action	58
3.2.13.3	No Action Alternative	58
4.0	Accident Analysis.....	59
4.1	Operations Hazards	59
4.2	Construction and Demolition Hazards	61
4.3	Transportation Hazards	61
5.0	Cumulative Effects	63
References		65

Figures

Figure 1.	Location of Los Alamos National Laboratory	2
Figure 2.	DX technical areas at LANL	3
Figure 3.	Conceptual drawing of the proposed Two-Mile Mesa Complex, the area of the Proposed Action (building locations and footprints approximate).....	12
Figure 4.	Proposed new access road and access-control station.	13
Figure 5.	Generalized geologic map of the Rio Grande Rift in the vicinity of the Jemez Mountains volcanic field.	47
Figure 6.	Conceptual drawing of the proposed Two-Mile Mesa Complex showing the approximate locations of the Pajarito and other faults (LANL 2002c).	48

Photos

Photo 1.	TA-9 Building 21, built in 1952.	5
Photo 2.	Maintenance problems at DX facilities.	6
Photo 3.	Transportable at TA-69 (Building 2).....	7
Photo 4.	Traffic congestion and accident at entrance gate.....	8
Photo 5.	Aerial view of the existing Two-Mile Mesa Complex in 2000.	11
Photo 6.	Typical energetic material research building (TA-9 Building 34).....	21

Tables

Table 1.	Buildings to be Vacated as part of the Proposed Action	14
Table 2.	Projected Chronology of Proposed Action Construction and Operations	28
Table 3.	Potential Environmental Issues.....	31
Table 4.	Potential Offsite Disposal Locations for Hazardous Waste.....	34
Table 5.	Estimated Construction Wastes: Sources, Quantities, and Transportation.....	35
Table 6.	Estimated Demolition Waste Types, Quantities, Traffic Effects, and Disposal Locations	36
Table 7.	NRHP Eligibility Recommendation for Buildings to be Vacated under the Proposed Action	41
Table 8.	Potential Release Sites in the Vicinity of the Proposed Two-Mile Mesa Complex.	53
Table 9.	Combined TA-16 and DX Estimated Waste Quantity, Traffic Effect, and Disposal Location: Construction Phase	64
Table 10.	Combined TA-16 and DX Estimated Waste Quantity, Traffic Effect, and Disposal Location: Demolition	64